

Muscular Dystrophy

Muscular dystrophy is a grouping of genetic diseases where the muscle fibers tend to be overly susceptible to any damage. The damaged muscles end up becoming increasingly weak. Most of the time, those with the condition will wind up having to use a wheelchair.

Multiple types of muscular dystrophy exist. Symptoms often begin in childhood, especially in boys. Some of the other forms of the disease don't show up until adulthood. For those who have muscular dystrophy, problems with swallowing and breathing might ensue. The limbs wind up drawing inward and become fixated in that position, known as contracture. Some variations of the disease can affect the heart and many of the other organs. Even though there isn't a cure for the disease, medication and therapy can help to slow down its progression.

Muscular Dystrophy Anatomy

Muscular dystrophy is a hereditary, genetic muscle disease causing progressive degenerative weakness of the muscles. It is usually caused by a mutation in the X chromosome gene. It is often characterized by weakness of the skeletal muscle tissue, death of cells and muscle tissue and defects within the muscle proteins. Over 100 different diseases are classified as muscular dystrophy or they are extremely similar to the condition. Most forms of the disease tend to be multi-system disorders affecting multiple parts of the body such as the gastrointestinal, heart, endocrine, nervous systems, glands, eyes, skin and other organs. Symptoms can get progressively worse and cause severe limitation on walking and movement.

Most forms of MD tend to be multi-system/multi-organ, not only affecting the musculo-skeletal system, but also the gastro-intestinal system, eyes, brain and nervous system, heart and cardiovascular system, respiratory system and endocrine system. It is more common in boys.

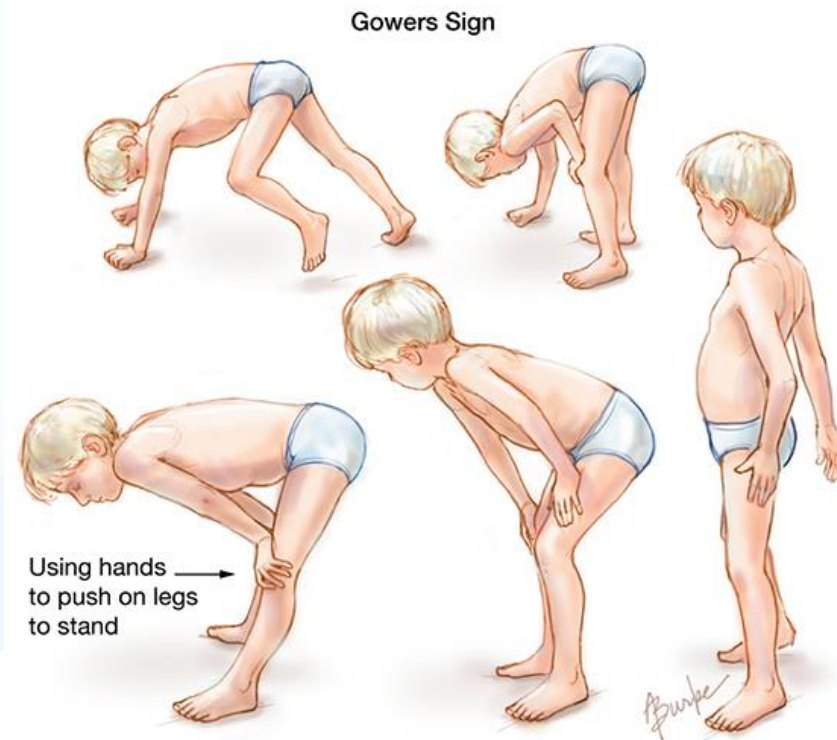
Duchenne Muscular Dystrophy is one of the more common forms of MD, and is symbolized by the Gower's Sign described below.

MD Symptoms:

- Muscle wasting (atrophy) that is progressive
- Poor balance
- Difficulty walking
- Frequent falls
- Unusual or waddling gait
- Spinal scoliosis (curvature of the spine)
- Joint stiffness and contractures
- Difficulty breathing
- Heart arrhythmias
- Muscle spasm
- Using the hands to aid/support walking or stair climbing
- Difficulty getting up from lying flat on the back – usually meaning a roll on to the front is required
- Gower's Sign

Gower's Sign

Gower's sign indicates that there is weakness in the proximal muscles. So the child has difficulty getting up from the floor as they are unable to effectively squat or push up from a squat position. So the child learns to go onto hands and feet and to walk the hands up the body. This allows the hands to push the trunk upwards. This is due to weak back and abdominal muscles.



How to Treat Muscular Dystrophy:

1. Medication

Corticosteroids help improve muscle strength and slow down the progression of certain forms of the disease.

2. Range-of-Motion Exercises

Muscular dystrophy can cause the flexibility in the joints to be restricted. Joint mobility is limited. Limbs will draw inward and become stuck that way. One of the main goals of physical therapy is to provide you with regular exercises to keep the joints as flexible as you possibly can.

3. Mobility Aids

Braces often provide support to the weakened muscles and help to keep the tendons and muscles flexible and stretched, slowing down the contracture progression. Wheelchairs, canes and walkers might be beneficial with maintaining mobility and a sense of independence.

4. Breathing Assistance

As the respiratory muscles grow weaker, a sleep apnea device might improve oxygen delivery throughout the evening hours. Some of those who have severe cases of muscular dystrophy might have to rely solely on a ventilator, which is a machine that forces air into and out of the lungs.

Tips:

- Since respiratory infections might become an issue later on with the disease, it is imperative that you are vaccinated for pneumonia, as well as maintaining any influenza shots.
- Muscular dystrophy can occur in both men and women of all ages and races, but it commonly occurs in younger boys.
- Those who have a family history of the condition are at an increased risk of developing the disease or passing it to their children.
- Some forms of the disease can shorten your lifespan, often because of the effects on the muscles that are associated with breathing.
- Hundreds of different genes are involved with making proteins protecting muscle fibers from potential damage. The disease occurs whenever one of those genes is defective.